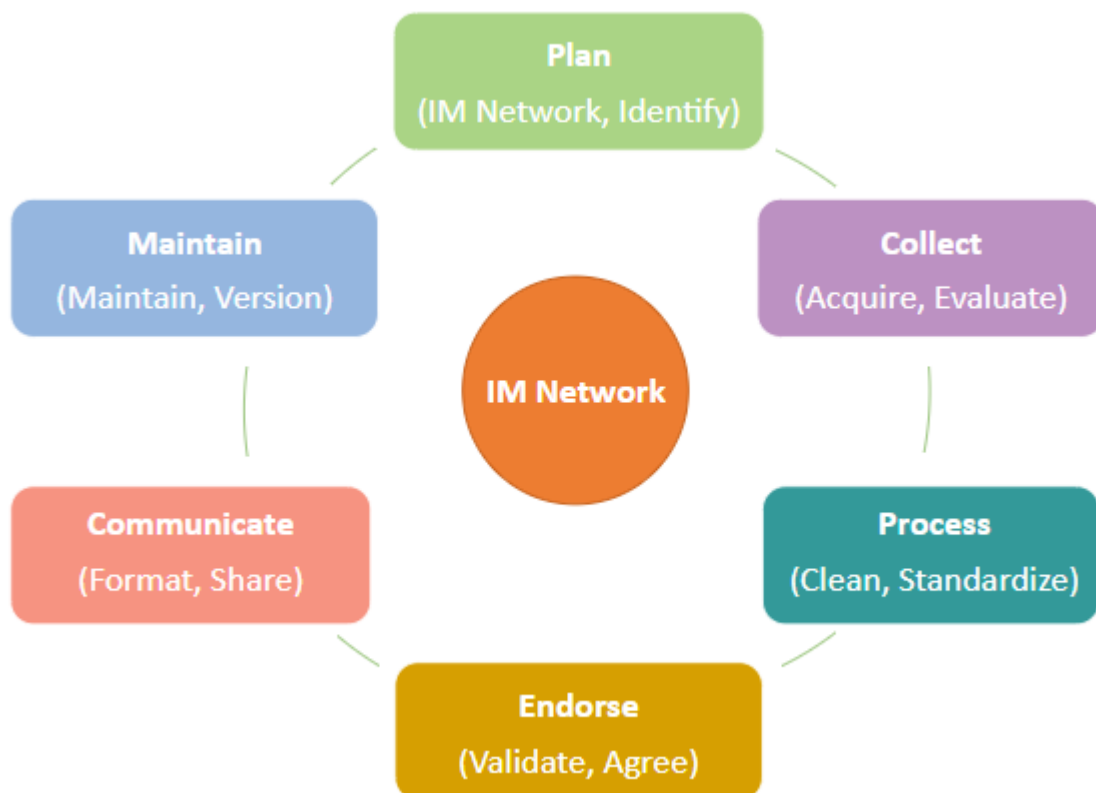# Overview

Work on Common Operational Datasets (CODs) should be done as a [preparedness phase](#) of the Humanitarian Program Cycle (HPC)

COD management should follow the COD cycle identified below (and in more detail on other pages). The COD cycle has 6 steps: 1) plan, 2) collect, 3) process, 4) endorse, 5) communicate and 6) maintain. The endorsement of the dataset by the IM network is the step that sets it apart from all other operational datasets.

Plan
(IM Network, Identify)

Maintain
(Maintain, Version)

Collect
(Acquire, Evaluate)

IM Network

Communicate
(Format, Share)

Process
(Clean, Standardize)

Endorse
(Validate, Agree)

Partners and relationships are required to support the COD cycle. An Information Management Working Group (IMWG) that supports the development and maintenance of a COD may vary depending on the context and participant availability; at a minimum, the group must endorse the COD by agreeing that the dataset will be used for preparing and responding to humanitarian situations. Certain CODs may require the participation of particular partners based on their expertise and new partners may be identified at any stage

of the COD cycle. No CODs is created by any organization alone and the relationships among the IM Network are as valuable as the datasets themselves.

The COD cycle should be proactively worked on prior to emergencies in the data preparedness phase in support of the contingency planning process. The cycle is to be done yearly, with a review of newly available datasets or updates required at the planning stage. If no update is required, the Collection and Processing phases can be skipped and endorsement should be obtained so that all partners are aware that there is no change to COD. The metadata should be updated to indicate the new endorsement date and the Communicate and Maintenance phases should then be followed

Process

1. Plan

Development of goals, identification of critical partnerships and available datasets

COD planning involves determining the goals of the IM Network, determining the critical partnerships necessary at each step in the cycle, and identifying data sources. Although some partnerships will be the same for all CODs (those actors involved in the response), each dataset might also have unique partners. Identifying the critical partners can be a challenge in many countries as occasionally different governmental departments will claim responsibility. It is important to keep in mind that CODs are operational and by deciding to use one dataset over another the IM Network is not engaging in a political discussion but is simply determining which dataset is most useful during a humanitarian response.

2. Collect
Acquisition and evaluation of datasets

The collection phase involves the acquisition and evaluation of datasets to identify the dataset that will become the COD. This phase also includes negotiating licenses, as limited sharing possibilities may influence the dataset that is chosen. Metadata should be collected at this point and further developed throughout the COD cycle. The acquisition can be done by OCHA or another organization - ideally the organization with the closest and most sustainable relationship with the data source. It is likely to be OCHA in many cases but when OCHA is not present in a country an alternative data Guardian or Sponsor may be better placed to collect the data from the source. Consider contacting the HC or RC if a course is reluctant to share a COD (the HC/RC will be part of the COD cycle as they endorse the list of CODs).

The evaluation involves a quick quality assurance check in-country to ensure compliance with minimum standards of data characteristics (spatial and attribute) and metadata. The process identifies potential problems or opportunities with datasets that should be considered when deciding what dataset should be the COD. The end result is a Provisional COD that can be shared (with appropriate metadata that it is being improved throughout the process).

3. Process
Processing and validating datasets

The processing step of the COD cycle involves improving the dataset through cleaning and standardizing so it is in the 'best available' standard possible. The standard should allow it to be used for multiple operational purposes (cartographic, frameworks, and analysis) and for corporate/system purposes (the latter is especially true for administrative boundaries). This phase generally takes the longest; it produces a Candidate COD.

The validation step is a final check on the Candidate COD. It includes a technical review to make sure the corrections made in the processing phase are agreed to. This phase involves explaining to partners what changes took place in the processing to assist in the next phase of the COD cycle.

4. Endorse
Endorsement of official COD (consider RO and CO difference)

The endorsement phase of CODs is the defining moment of the COD cycle as it is at this stage that the IM Network agrees that the provisional COD becomes the Endorsed COD for a country. Acceptance is also required by others in the country/region including the RC/HC. A third endorsement is done by OCHA-FIS who verifies metadata and does a quick and final check on the dataset.

5. Communicate
Sharing datasets and communicating

Sharing CODs in different formats, with appropriate metadata should occur as a preparedness activity or within the first 48 hours of a sudden onset emergency through the distribution and management mechanisms available and appropriate for the country or context, taking into account national systems and capacities. The format(s) that are provided should satisfy different types of users. Metadata is as important as the datasets. Communication of new datasets/updates to the humanitarian community (local, regional and headquarters level) is critical to this phase especially as changes may impact partner's systems. Many different ways of communicating should be used including IM network meetings, meetings notes, Skype messages, emails, advocacy material.

6. Maintain

Maintenance and Versioning datasets

Maintenance and versioning are important steps in the COD cycle. The process of maintenance requires the COD to be examined to verify its relevance and current accuracy. If new datasets or changes are required then the COD cycle must start over again. Versioning helps manage datasets. When a new version is created, updates to metadata and changes to dataset name etc. inform users of the lifetime of the COD dataset. Curation on HDX of the old and new dataset is critical for COD discoverability.

Resources

- [Common Operational Dataset cycle](#)
- [Common Operational Dataset partnerships and governance](#)
- Checklist
- [COD Tutorials](#)

COD Maintenance

Overview

Maintenance is an important step in the COD cycle as it ensures that the datasets are still relevant and accurate for humanitarian use. It is required once a year. The IM network should be asked if there are changes or new datasets they are aware of. If there are no changes, the IM Network should endorse the CODs already in use so all are aware that there is no change and update HDX metadata to reflect the decision. If new datasets are identified they should be processed, endorsed, and shared as described in the other phases of the COD cycle.

Process

Versioning occurs if there are changes to the dataset. It is a data management process that informs that a change has been made to the COD. Versioning requires changes in the old dataset and its metadata (by providing language to indicate a new version of the dataset it available and timeline of the dataset). A new version of the dataset and metadata should be created when changes are made so clients can still access the former version of the COD. The four tables below describe: 1) Initial Steps to identify if there is a new dataset available; 2) Steps if there are changes to the COD or a new dataset is identified (yearly or ad-hoc); 3) HDX metadata changes when there is a new version; 4) Steps when there are NO known changes to the COD (yearly review); 5) Steps To Archive In Your Office,
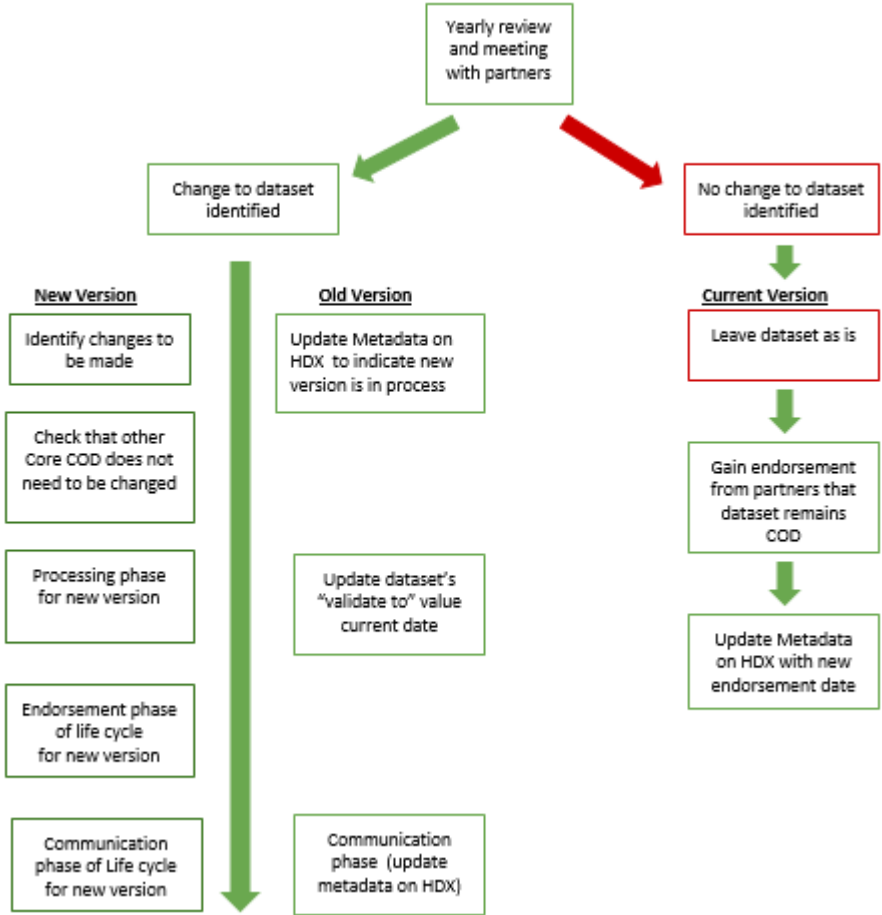

Table 0: Initial Steps to identify if there is a new dataset available

Step	Step Details	Ti
Find out if there is a new dataset available	Organize an IM network meeting to check if anyone has identified changes that need to be made or a new dataset that is available or better than what is currently in use OR if you have found a new dataset or changes required.	Liaise dataset A new

		Yearly
		(looked
		Consid
		produc
		An arc
		closed
		OCHA
Next steps in tables below	If there are changes or a new dataset **see Table 1 below**. If there are no changes to the CODs **see Table 3 below**.	

Table 1: Steps, if there are changes to the COD or a new dataset, is identified (yearly or ad-hoc)

Step	Step Details	Ti
1. Organize an IM network meeting	Communicate to partners that a new COD-AB is available and get feedback if a change is required	Consid assumi Comm polygo Get ag
2. Start the COD cycle	Start the COD cycle: Plan, Collect, Process, Endorse. to get make the changes or process the dataset	Provid Update Include Check
3. Version the data	Modify the old data set to indicate its time span	Update
4. Communicate that a new version of the COD is available	Share the new COD and metadata and archive the former COD's metadata on HDX	Archiv been re Add th Comm
5. Archive COD in your office	Place the old COD (all formats) in the archive folder and follow archiving steps	See Ta By kee ArcGis
5. HDX communicates to FIS	HDX notifies FIS of updates	Add th Comm
6. FIS endorses COD	FIS uses the Yearly Quality Check to verify the data and endorse.	FIS en

Table 2: HDX metadata changes when there is a new version

HDX metadata element	Former (old) COD (example)	Current (new) COD (exam...
Tag	Remove COD tag	Add COD tag
Title	Include (validate from and to dates)	Include year it was endorse...
Description	Say it is an "old" or "former" COD Include the "retirement date: YYYY/MM"	Include "COD was endorse...
Caveats	Link to new COD	Link to old COD it is replac... Details about the update

Table 3: Steps when there are NO known changes to the COD (yearly review)

Step	Step Details
1. Organize an IM Network meeting	Discuss continued endorsement of the same...
2. Communicate that the CODs have been endorsed again	Update metadata on HDX to reflect the new...

Table 4: Steps To Archive In Your Office

Steps
1. In the \\COD\AdminBdy\COD_XXX folder create a new folder called 'Archive'
2. Within the 'Archive' folder, create a new folder called "Archive_XXX_validTo_[Date]" Replace the [Da... for the new candidate
3. Move the ENTIRE contents of the AdminBdy\COD_XXX folder to the "Archive_XXX_validTo_[Date]"...
4. Edit the old candidate datasets to populate the validTo date fields for the features and the metadata
6. Rename the XXX_Evaluation_Checklist to Archive_XXX_Evaluation_validTo_[Date]" - as above replac... validOn date for the new candidate

Resources

- [Yearly evaluation template for COD-AB](#) add material from ITOS process for COD-AB COD services
- Tutorial
  - [How to publish COD-AB or COD-PS on HDX](#)

COD Planning
Overview

Working on common operational datasets (CODs) can be a time-consuming activity, developing a clear plan with a detailed goal can help everyone focus their limited time and resources. IM Network partners should work together to develop their plan for all CODs including prioritization of datasets. The goal of the planning phase is to have an agreed upon list of commonly used datasets by partners, this list should be SMART - specific, measurable, achievable, relevant and time-bound. Once clear goals and objectives are identified with partners (IM Network) work can begin on the identification of sources and datasets. Partners are also vital resources in understanding the intricacies of various datasets and government agencies and datasets. Core CODs (Administrative boundaries and population statistics are priority datasets).

Process

Step	Step Details
1. Identify Partners and develop goals	Determine if appropriate partners are partners are part of your IM Network Work with IM Network partners to determine your collective goals. Why do you need this dataset? What will it be used for? Who will use it? What is the purpose of the dataset (cartographic, database, online data collection)? A possible goal for administrative boundary:
2. Develop objectives and strategies with partners	Work with IM Network partners to determine objectives and strategies to reach your goal(s). Possible objectives for administrative boundaries:
3. Identify sources	Start with your IM Network, ask which agencies should be contacted. Prepare a table with detailed metadata for every dataset Share this table with your IM Network Ask IM Network to contribute metadata and contact information of the Administrative Boundaries in the table if they are using different sources of data Review metadata and current knowledge of datasets to see if a short list can be created

Tips

- OCHA coordinates CODs and is responsible for Core CODs, the IM Network is responsible for the country-specific CODs
- Make data goals SMART (specific, measurable, achievable, relevant and time-bound)
- Use a work plan to organize metadata, coordinate and track progress

- Should take place as a preparedness activity for countries identified as vulnerable to natural disaster or complex emergencies. If already in a response, a good time to do this is before the HNO process begins. A data review should be completed during the onset of a crisis.

Case Study

Has an active IMWG that worked together to identify commonly used dataset. Once the list was agreed upon they presented it to the HCT who then endorsed it. The group is now involved in collecting the CODs and sharing them on HDX. To develop the list and have it agreed to the following was required: bilateral action with members, meetings with the whole group, use of the prioritization tool to identify datasets, and communication of the value of CODs to HCT. In the future, the IM Network will review and revise the list if required and ensure the datasets area still appropriate.

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Resources

- COD Agreement Template The goal of this phase to have this list endorsed by the IM network and then the HCT/RCT yearly (Example of signed COD Agreement (Mali))
- COD Work Plan Template.xls This tool helps to organize metadata and coordinate work. (COD data Plan Template Example (Nigeria))
- Is it a COD tool Four questions to help identify CODs. Many datasets will be identified as necessary when preparing or responding to disaster or emergency, but not all of them are CODs. The following flowchart can be used to identify CODs from the list of datasets. Use the Data prioritization tool to narrow the list of CODs and confirm the datasets are relevant and provided in a timely manner. Once a COD is identified it should be included in the COD Work Plan Template and the COD Agreement Template.
- Data prioritization tool (from UNHCR) A tool to help prioritize dataset collection and work

COD Workplan

Working on common operational datasets (CODs) can be a time-consuming activity, so developing a clear plan with a detailed goal can help everyone focus their limited time and resources. Before undertaking any COD related activity first develop a clear goal (SMART - specific, measurable, achievable, relevant and time-bound). Once clear goals and objectives are identified with partners (IM Network) work can begin on the identification of sources and datasets.

Relationships are a key part of the COD cycle and are just as important and the datasets. IM Network partners should work together to develop their plan for all CODs including prioritization of datasets. Partners are also vital for understanding the intricacies of various datasets and government agencies.

Purpose of a COD Work Plan: A COD work plan is a project management tool to help organize and coordinate the multiple work streams related to CODs. It 1) coordinate COD efforts: identify data needs and priorities; share information about work with partners; collect information from partners, etc.; 2) organizes work (plan project; consolidate information about the process; maintain the status of progress).

When to create a COD Work Plan: Ideally an assessment of data requirements should take place as a preparedness activity for countries identified as vulnerable to natural disaster or complex emergencies. If already in a response, a good time to do this is before the HNO process begins. If this did not take place prior to an emergency, the following methodology for data review is valid during the onset of a crisis.

Who creates a COD Work Plan: The COD Work plan can be initially populated with the currently available datasets by OCHA. The IM Network must contribute, as they can identify datasets and provide cluster / sectoral expertise on themes that may be required.

Process

Steps to creating a COD Work Plan

1. Identify the list of potential risks and hazards for the country you are preparing for (or if in an emergency consider that disaster type); link to ERP
2. Download the COD Plan Template.xlsx
3. Examine the country-specific COD section of the toolbox for suggestions of datasets that may be required
4. Compile an inventory (name of dataset and metadata) of datasets / CODs currently available from:
5.
    1. HDX: retrieve the list of sub-national datasets and metadata
    2. Other locations (e.g., Dropbox, office computers, etc.) where data / CODs are stored
6. Add to the inventory datasets that may be required based on the disaster type
7. Share with the IM Network. Hold a meeting specifically about this work plan
8.

1. Prioritize datasets based on time/effort and need
2. Ask partners to populated what they know (reaching out to their networks for data)

9. IM network should endorse the work plan and the data themes/guardians into an [IMWG COD Agreement Template (for ICCG, HC endorsement)](#)
10. Get endorsement from the ICCG, HC/RC (provide them with the [IMWG COD Agreement Template (for ICCG, HC endorsement)](#))
11. Revisit this work plan yearly and use it as a data needs and status guide both in preparedness and response.

Tips

- Start populating the work plan prior to sharing with partners
- Share with partners as soon as possible (they have valuable information and insight about datasets)
- Make the work plan online for easy collaboration
- Ask partners to check with their colleagues and HQ level as datasets can be found everywhere
- In a big emergency think outside the box and share with Global level IMWG, the Inter-Agency Skype Group, OCHA IMO Skype group (datasets can be found all over)
- Be realistic about what datasets are required and the time and effort required to acquire them
- Consider geographic scope: to what administrative level is needed, is the whole country needed, or just a section of it based on the affected area.
- Consider having a specific IMWG GIS meeting to discuss spatial data
- Consider the datasets (especially demographic data) that are exposed during the Secondary Data Review at the beginning of an emergency
- The plan and agreement should be a much light process after creating the first time as it should just be reviewing the metadata.
- Ask HDX for a "metadata dump" of your country's CODs so most of the metadata is already available for the data plan
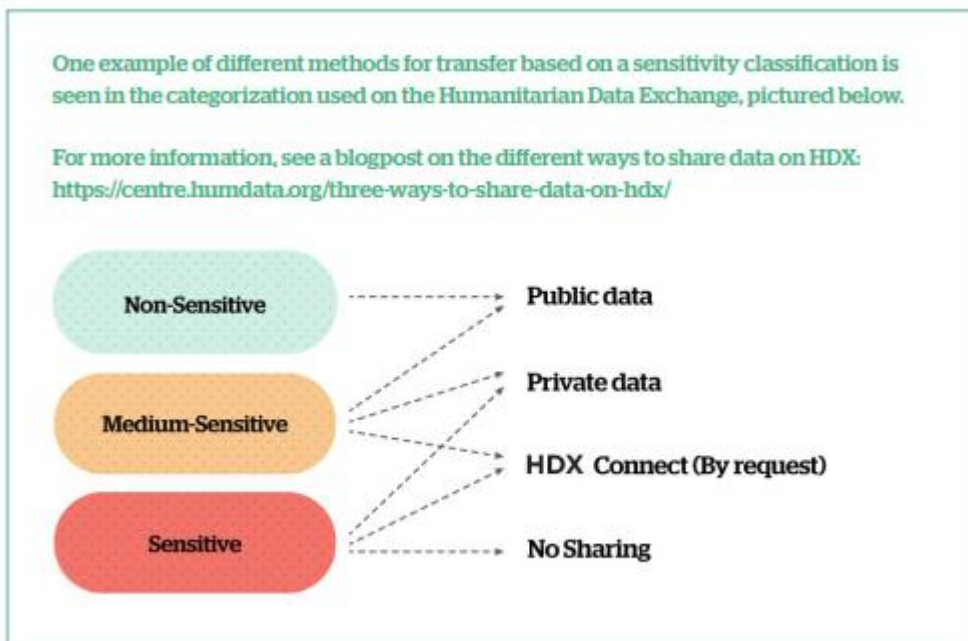
RESOURCES

- [COD Work Plan Template](#)
- [COD data Plan Template Example](#)
- [COD data plan template WFP / OCHA / MapAction](#)
- [Data prioritization tool](#) (from UNHCR)
- [COD Agreement Template](#) (created by IM network and to be used for endorsement for HC/RC)
- [List of datasets (CODs) already on HDX can be acquired via HDX's API. For more info see HDX FAQ](#)

Data Agreements and Sharing

- **When negotiating data, focus on the intended use of the dataset rather than the dataset itself -** A data source may not want to share a full dataset but happy to share partial data that is more public and the humanitarian community may only need some of their database (e.g. School datasets can be full of information but unless you are part of the education sector all that is really need is the school name, location and, number of students or rooms which may be easier to negotiate.
- **Start by asking what can be shared rather than what can't be shared**
- **There are different types of data agreement, consider what you need -** 1) Data terms of use (or data agreement) - this is between the data source and data contributor or guardian (a reference to COD Governance model but applicable to all data negotiations); 2) a COD Agreement - a high-level agreement designed to identify family fo CODs that IMWg has identified and their associated data source, contributor, sharing date.
- **Discuss dataflows and updates -** Discuss the way the dataset was created and maintained by the data source so there is a clear understanding of the dataset and when updates should be expected

Sharing levels (visibility/access) on HDX

It is critical to identify the type of sharing that can occur with a dataset prior to deciding that it will be a COD. If the dataset cannot be shared at all it should not be identified as a COD as this impedes it from becoming a common reference. There are various types of licenses available and efforts should be made to make data as open as possible when negotiating with data sources but there are options available if this is not possible. Below is a list of license types available for all CODs on HDX.

One example of different methods for transfer based on a sensitivity classification is seen in the categorization used on the Humanitarian Data Exchange, pictured below.

For more information, see a blogpost on the different ways to share data on HDX:
https://centre.humdata.org/three-ways-to-share-data-on-hdx/

Level of Visibility on HDX	Description
Public	• The best option is to make data available, always try to negotiate an open license • Many different HDX licenses are available. • The licenses are used for data that can be made public and can be used for commercial purposes (including allowing OSM to absorb the data). • The most commonly used in the humanitarian context is "Creative Commons Attribution for Intergovernmental Organisations (CC BY-IGO)"
Somewhat public - Metadata is public and data can be requested	• A good option when data source hesitant to share data (concern about commercial use, data quality, etc). • Allows metadata to be shared and partners to request data, this allows the data source control and agreement should be made so initial share is to the IMWG (a group letter requesting the data can allow for this or individual requests to prove its value to the humanitarian community) • State that data is for humanitarian use only if that helps and includes a caveat there are no warranties or representations as to the accuracy or completeness of the dataset.
Public at on-set of an emergency (preferably private on HDX pre-event)	• A good option when data source hesitant to share data • Negotiate to post the data privately on HDX so only OCHA/Data Guardian can see it. By posting in HDX it as a preparedness activity partners know where to go when something does occur, the data can be shared instantly, and there is no concern about internet connection or access to datasets to upload.
Private only for specific organizations (e.g. IMWG members) on HDX	• When data source will only share data with UN agencies (or specific organizations) • A specific agreement should be made with the data source • Speak with HDX to find out more
Private only for specific organizations (e.g. IMWG members) and not on HDX at all	• When data source will only share data with UN agencies (or specific organizations) • A specific agreement should be made with the data source • Think carefully about the location of the data to ensure it is safe and protected

Resources and Examples

- For examples from OCHA offices (internal access only)

- For guidance see <u>The Working Draft Of The OCHA Data Responsibility Guidelines</u> (from OCHA's Centre for Humanitarian Data), especially check out the Information Sharing Protocol (ISP) template and information (see pages 55-57 for template)

COD Collecting

Overview

The goal of the collection phase is to acquire the datasets in a centralized location and evaluate the datasets quality

Collecting CODs is the process of locally acquiring datasets, and should include keeping a thorough data trail and metadata. The collection can be done by OCHA or another organization, ideally the organization with the closest and most sustainable relationship with the data source. It is likely to be OCHA in many cases but when OCHA is not present in a country an alternative data Guardian or Sponsor may be better placed to collect the data from the source (see COD Governance for more information).

The second part of the collection process is the evaluation phase that includes an examination of potential sources conducted by the data sponsor and/or OCHA to facilitate identification of the best COD-AB. The evaluation involves a quick in-country quality assurance check to ensure (potential) compliance with the minimum standard of data characteristics (spatial and attribute) and metadata. The process identifies potential problems or opportunities with datasets that should be considered when deciding what dataset should become the COD.

Evaluation includes a quick check of:

- data completeness
- data accuracy
- spatial data qualities (e.g. prj, scale, etc)
- metadata completeness
- ability to share dataset

Process

Step	Step Details	Tips
1. Acquire	If multiple sources were identified ask partners to place all available datasets in one location so all partners have	• Potential storage locations: Dropbox, the box, etc - not a public location at this point

	access to them. If there is only one source, the dataset and metadata should be shared somewhere that partners have access to it.	• The COD Data Work Plan started in the identification phase should be stored in the same location so the IM network can help to populate it • The IMO may not be the best person to negotiate data collection. Other colleagues may be better placed for such discussions, e.g., a government liaison officer, the Head of Office, the Head of the IM Unit, etc.
2. Evaluate	Do a quick review of the datasets quality	• This is not meant to be a lengthy or heavy process but each administrative level needs to be examined. • Identify if P-code exists, should they be added? • Involve partners - they should conduct a quick evaluation on the datasets they are suggesting as potential CODs • The information learned through the evaluation process should be included in the metadata and kept as part of the data trail.
3. Add details to data plan	Add any new information gained from the quick quality check into the Data Plan Template	• Add additional metadata and other information to the COD Work Plan started in the planning phase • Be sure to discuss sharing permissions as it may impact if the dataset if chosen as a COD • Have a draft data agreement ready to make negotiations easier.
4. IM Network meet to discuss	Have an IM network meeting specifically about the potential datasets using the evaluation table as a discussion point	• Contact information about the data source is critical for subsequent follow-up and should be added to the • COD Work Plan • Use a projector so everyone can see the Data Plan and ask partners to bring laptops so they can contribute to the Data plan if required

| 5. Identification of CODs | IM network identify the dataset that will be processed as CODs | • Identify who will process the datasets and how long it will take in the COD Work Plan |
| 6. Share list of COD | Share the Data plan with partners so all are aware of COD timeline | |

Tips

- The IMO may not be the best person to negotiate data collection. Other colleagues may be better placed for such discussions, e.g., a government liaison officer, the Head of Office, the Head of the IM Unit, etc.
- The evaluation is not meant to be a lengthy or heavy process but each administrative level needs to be examined.
- P-code is required to link to core CODs
- Involve partners, they should conduct a quick evaluation of the datasets they are suggesting as potential CODs.
- The more metadata the better, any information learned in the evaluation should be added.

Resources

- COD Work Plan Template.xls This tool helps to organize metadata and coordinate work. (COD data Plan Template Example (Nigeria))
- Metadata required by HDX to guide the creation of metadata
- COD tutorials:
  - How to evaluate COD-AB topology

Quick Quality Checks: COD-AB, PS
Overview

This evaluation is intended to help identify the best available dataset to become a COD. Use it to help make an informed decision when multiple datasets are available. It is not meant to be long process. It can be considered a minimum standard for a COD.
The Quality Check has scoring sections for 'Metadata', 'Attribute structure', 'Parentage checks', and 'Spatial checks' (for COD-AB).
Each indicator should be satisfied according to the criteria and instructions.

Quick Quality Check COD-AB

Indicator	Criteria
Metadata	
Date of dataset	Is the date of the dataset indicated?
Clear source	Is the data source clearly indicated and defined?
Clear methodology/comments	Is there methodology or comments contained clarifying informati
License	Can the dataset be shared? Is the type of license/rights of use defi
Spatial dataset	Is there a file for each level? Can a lower level be used to create u
Attribute structure	
Polygon count check	Is the count accurate? (examine against government maps or othe
Shp is polygon	Does the shapefile contain only polygons shapes? If not can polyg be done)
No missing AB level names	Are there names in all records? if not can they be identified?
Clear column names	Can the data be understood? If not is there metadata to explain it?
Lower levels have higher attributes included	Do the lower admin boundaries have the higher admin boundaries
P-Codes constructed	Do the P-codes incorporate values from higher levels? If not can
Only unique names	Is there any duplicate names within the level? If there is are the P
Only unique P-Codes	Is there any duplicate P-codes within the level?
Parentage checks	
P-Code parentage check	Does each admin level have upper level P-codes? Is the hierarchy

Name parentage check	Does each admin level have upper level names? Is the hierarchy t
Spatial checks	
Geometric nesting	Are there issues with topology? This is a quick check to see if the
Topology errors	Are they some gaps or overlaps within the layers?
Entire country is covered	Do the different level span the entire country? If part of the count source able to fill it?
Link to COD-PS check	
AB joins to PS	Did the PS join to AB levels work?

Quick Quality Check COD-PS

Indicator	Criteria
Metadata	
Date is recorded	Is the date of the dataset indicated?
Clear Source	Is the data source clearly indicated and defined?
Clear Methodology/comments	Is there any methodology or comments clarifying the information?
License	Is the type of license/rights of use defined? Can the dataset be shared?
Spatial dataset	Are there statistics for all the AB levels? Can a lower level be used to cr
Attributes	
Count Check	Are the statistics different between sources?
Sex and Age Disaggregated data	Are the statistics disaggregated by both sex and age such that data or est and men?
Administrative level name included	Are there names in all records? if not can they be identified?

Clear column names	Can the data be understood? If not is there metadata to explain it?
P-codes constructed	Do the P-codes incorporate values from higher levels? If not can they be
Unique Names	Is there any duplicate names within the level? If there is are the P-codes
Unique P-codes	Is there any duplicate P-codes?
Parentage checks	
P-code Parentage Check	Does each admin level have upper level P-codes? Is the hierarchy the sa
Name Parentage Check	Does each admin level have upper level names? Is the hierarchy the sam
Coverage checks	
Entire country is covered	Do the statistics span the entire country?
Link to COD-AB check	
PS joins to AB	Did the PS join to AB levels work?

COD Processing

Overview

The goal of the process phase is to improve the quality of the dataset to the best standard possible. Metadata is important to consider at this stage. The processing phase cleans and standardizes the datasets and can be the most resource and time intensive stage of the COD cycle if the quality of the data is low. Changes made to data during the processing should be documented in the metadata. The processing does not need to be done in isolation by one group; the workload can be shared (see list of potential partners).

There are six types of processing that must occur for most types of files

1. Cleaning attribute errors (names, numbers, text, P-codes)

2. Adhering to any standardization that may exist
3. Cleaning of topological errors (gaps, overlaps) for spatial data
4. Creation of standard for spatial data (projection, the inclusion of UTF-8 if required)
5. Includes P-code to improve the ability to link to CODs

Process

Step	Step Details	Tips
1. Check in with the data source	Contact data source before any processing is started to: • determine whether a new version is available • notify them that data will be processed • check if they will adopt the dataset after	• This step only needs to be done if the data source is not part of IM network • The data sponsor should contact the data source • Ask the data source what role they can play in the processing phase • If the data source is not going to take the improved dataset, consider the impact on the COD next time they update their dataset • Discuss possible exceptions to errors;
2. Plan processing	• Identify who can help with the process • estimate the amount of time required to process	• Check with partners who can help with processing; discuss the problems with partners and see if there are experts that can help • add details to the COD Work Plan

3.Process data	Process data an keep track of changes made for metadata and to explain to partners in the endorsement phase.	• For errors that cannot be corrected or if data looks incorrect but is not include notes/explanation in the metadata. Examples include:
		•
		   o Ideally, all topological errors can be fixed but if they cannot be list those that have issues
		   o Names truncated for in-country reasons are acceptable

Tips

- Use standards that already exist (e.g. COD-AB and COD-PS standards)
- P-codes enable easy linking of tables. Include them in all possible datasets (even tabular data) include the lowest administrative level required/possible
- Datasets do not need to perfect to be operational
- Consider the amount of time required to improve a dataset versus when it is required when planning processing work
- All partners should participate in this process to make it light and quick

Resources

Supportive resources

- Metadata required by HDX to guide the creation of metadata
- Tips for COD metadata on HDX
- Standards for COD-AB and COD-PS
- COD Work Plan
- ITOS Process for COD - Administrative boundary

COD tutorials:

- How to create polylines based on admin levels from COD-AB polygons
- How to evaluate COD-AB topology

COD Communication

Overview

The Communication phase includes two steps: disseminating the required formats with metadata and communicating to partners that there is a COD available. It is becoming more important to notify partners of changes to COD-AB as they start using COD services, changes to the number of admin units, names and p-codes can cause a problem if they are unaware of a change.

There are four areas to consider when sharing CODs, these will be outlined below.

1. Format CODs will be provided in
2. Metadata
3. Curation on HDX if it is in the maintenance phase - update or endorsed again
4. Communication (advocacy / promotion) of COD

Process

Step	Step Details	Tips
1. Create formats	Create the required/requested formats (e.g. shp, xls, csv, etc.)	• See the table below for details about required and recommended formats
2. Publish the COD on HDX	Publish the various formats of the dataset on HDX	• Metadata is directly related to discoverability on HDX • See Metadata page for more information • See the section below on dataset curation on HDX
3. FIS endorses the COD	Once the dataset(s) has been put on HDX, send FIS can review the dataset and metadata (only required for COD-AB and COD-PS)	• FIS can provide advice upon request
4. Make it Public on HDX	Change the visibility setting to the public on HDX only required for COD-AB and COD-PS)	• See the HDX Standard Tag List (for more information about tags on HDX: Tag Cleanup: A new approach to tagging on HDX)
5. Communicate availability	Communicate data availability through all channels possible	• See table below for ideas of who needs to be communicated and methods
6. Create advocacy material	Create posters, one-page infographics about admin levels, etc.	• Tagged as 'COD' • Metadata: Caveats include errors and notification that it is being processed with an approximate date of completion (YYYY/MM) • The description includes lines that state it is a "Provisional COD" and that it is being processed.

Formats of datasets

The formats produced should satisfy clients needs (consider partners with spatial skills and tools and those without). The following is a list of common data formats that are used for CODs.

FORMAT	COMMENTS
NON-SPATIAL	

Tabular (.xls)	• For non-GIS colleagues. • Can be used as a framework (e.g., 3W Monitoring template, etc.) • On HDX only .xls will be previewed (only first tab is shown). is this a standard we want to add? (xlsx new version will not be previewed)
Tabular (.csv)	• a flat file and can be directly implemented in many systems (e.g. GIS software and DB systems)
SPATIAL	
Shapefile (.shp)	• spatial dataset that can easily be used by those with spatial software
Geodatabase (gdb)	• spatial dataset that can be used by those with spatial software (may require more GIS skills to use)
Enhanced Windows Metafile (EMF)	• this format can be used to create maps in Excel and Powerpoint. Useful to non-GIS colleagues and to make simple maps quickly.
Keyhole Markup Language (KML)	• for use with Google earth, good format for non-GIS colleagues who want to visualize datasets.

Metadata

Metadata is data [information] that provides information about other data. It is critical for COD discoverability (on HDX) and increases trust about the dataset. Disseminating a COD with appropriate metadata should occur as a preparedness activity or within the first 48 hours of a sudden-onset disaster.

For more information about see Metadata page

If data cannot be shared publicly, it is still helpful to share metadata on HDX so clients can follow up via the platform. To learn more about sharing metadata only on HDX see: A New Call To Action: Sharing The Existence Of Data

COD Curation on HDX

Curation is the process of organizing datasets so their value is maintained and are still available over time (see Wikipedia for more information). Curating CODs on HDX will reduce confusion about data changes over time (identifies versioning) by explaining changes in metadata and tagging. This is a manual process on HDX. All CODs should be renamed on HDX even when new versions are provided for historical analysis and visualization purposes. This is done through 1) renaming files and, 2) through metadata (on HDX).

The table below identifies the HDX metadata elements that are affected by a new COD version and information that should be included in each

HDX metadata element	Former (old) COD (example)	Current (New) COD (example)
Tag	• Remove COD tag	• Add COD tag
Title	• Include (validate from and to dates)	• Include year it was endorsed
Description	• Say it is an "old" or "former" COD • Include the "retirement date: MM/YYYY"	• Include "COD was endorsed by IMWG YYYY/MM"
Caveats	• Link to new COD	• Link to old COD it is replacing • Details about the update

Communication objectives:

Letting partners know that a COD is available is a key step in the communication phase and needs to be done after the dataset has been shared. Using traditional means such as IM network meetings and emails is a good start but the number of people using CODs has increased over recent years and broader notification is now required.

A communication plan is required to let clients know about CODs, especially now that web services are available as changes will impact systems. The plan does not need to be complicated or time-consuming.

Letting partners know that a COD is available is a key step in the communication phase and needs to be done after the dataset has been shared:

1. Operational partners should be notified about availability, quality, and location of CODs
2. Decision-makers know CODs are available so they can advocate their use
3. COD services users know that are new/updated COD-AB services available that may impact their system

Communication Methods:

Partners such as HDX and FIS are here to help. Here are some organizations to consider and communication mechanisms. There are several ways to communicate the availability of CODs (especially updated CODs)

Meetings

• Local IM network (and meeting notes)
• Inter-Cluster Coordination Group (ICCG)
• HCT/HC/RC

Skype

- IM local group
- IM inter-agency
- OCHA IMO Skype
- Any other skype related to the emergency

Email

- IM Network (local)
- HCT
- FIS

[Core COD Dashboard](#)/ HDX status page

[Humanitarianresonse.info](#) front page has a list of the CODs from the COD Agreement with links to the datasets on HDX

Posters

Communication Timing

Promotion of CODs should take place regularly throughout the humanitarian program cycle and specifically.

Scheduled	Sent by	Sent to	Comm. Method	Description
Quarterly	FIS	SMT, CRD OCHA IMOs, Global IMWG, CCCG	• Email (cc OCHA IMO) • Inter-agency skype • OCHA IMO skype • Meetings	• Update on COD activities • Workshops, new documents etc • Update on countries COD-AB processed by ITOS • Update on countries COD-PS that are in better quality • Provide a link to Core COD Dashboard
Yearly - Before and after endorsement date (ideally	CO/RO	IM Network, HC/RC, ICCG	• Email (cc FIS) • IM networor	• Identify current/new/changes to CODs (list of CODs and datasets)

When	Who	Audience	Method	Content
before HNO work)			• k Skype • Meetings	• Invitation to participate in COD cycle process (esp endorsement) • Notification of new links on HDX • Copy of COD agreement (signed by HC/RC) • Link to COD-TSP
When there are changes to CODs	CO/RO	IM Network, ICCG, FIS	• Email (cc FIS) • IM Network Skype • Meetings	• Provide a link to CODs on HDX (or elsewhere) • Provide metadata summary • Provide a link to Core COD Dashboard
The onset of Emergency or announcement in OCHA	CO/RO	IM network, HC/RC, ICCG, Assessment WG	• Email (cc FIS) • IM Network Skype • Meetings • Ad-hoc skype grps	• Provide a link to CODs on HDX • Provide metadata summary
	FIS	Global IMWG, Joint Analysis Grp	• Email • Inter-agency skype • Meetings • Ad-hoc skype grps	FIS - can use email CO/RO sends out to send to a global network

During Secondary Analysis	CO/RO	IM Network, HC/RC, ICCG, Assessment WG	• Email (cc FIS) • IM Network Skype • Meetings	• Provide a link to COD - AB on HDX • Provide metadata summary
	FIS	*Global IMWG, Joint Analysis Grp*	• *Email* • *Inter-agency skype* • *Meetings*	*FIS - can use email CO/RO sends out to send to a global network*
When Live services become available/change for COD-AB	FIS	Global IMWG, OCHA IMOs, COD Serv. clients	• Email (cc OCHA IMO) • Inter-agency skype • Meetings	• Provide a link to COD - AB on HDX • Provide metadata summary • Provide a link to COD Dashboard • Link to COD-TSP
	CO/RO	IM Network, ICCG	• Email • IM Network Skype • Meetings	CO/RO - can use email FIS sends out to send to CO/RO networks

Other ideas: tweets (HDX can do this for you),

Resources

- Core COD HDX Checklist (Communicate Phase)
- How to share metadata on HDX
- Detailed Maintenance and Versioning Checklist for Core CODs
- Steps for Format Conversion
- How to consume COD services
- Advocacy material - see CODs page

- Tutorial
  - [How to publish COD-AB or COD-PS on HDX](#)

Overview

Until 2020 Core CODs were expected to be officially endorsed by the Humanitarian Country Team (HCT), Humanitarian Coordinator (HC), or the Resident Coordinator (RC), This was rarely practical and was only achieved in a very small proportion of countries.

Formal COD endorsement is no longer required or a component of COD evaluation, but the process may still be used. IMWGs are responsible for developing a consensus on COD selection and preparation.

The endorsement phase has 2 steps: validation and endorsement (in the country and at the global level).

The validation phase is a technical review on the Candidate COD and is done to ensure that the corrections made in the processing phase have created the best available COD. Notes about the data quality should be included with the metadata.

The endorsement phase of CODs is the defining moment of the COD cycle as it is at this stage that operational partners agree that the candidate COD is going to be the referential dataset for humanitarian preparedness and response activities. There are three endorsements that are required for Core CODs. OCHA-FIS will provide a review of country-specific CODs upon request.

Who	What they endorse
IM Network in the country (or region)	The datasets to be used as CODs (written up in the COD agreement)
[No longer formally required] HCT or RC	The COD agreement (brief provided by Head of Office or Chair of IM Working Group)
OCHA-FIS	The dataset and metadata on HDX for Core CODs (Done at the communication phase of the cycle. CODs uploaded by OCHA office and reviewed and made public by OCHA_FIS)

Process

Step	Step Details	Tips
1. Validate the candidate	Evaluate the Candidate COD	
2. Update metadata	Update of COD metadata to include the details about the processing	• include details about issues that could not be corrected.
3. Meet with IM network	Gain agreement from partners to endorse the CODs	• Endorsement is more easily acquired if the process was transparent and the data

		source and partners were involved throughout the COD cycle process.
		• Review the notes from the processing stage in case anyone has specific/detailed questions about changes made
4. Share data with the data source	Meet with Data Source/Sponsor separately to gain endorsement prior to meeting with partners as a group	• Share the dataset back to the source so they can benefit from the improvements done on the dataset
5. [No longer formally required] Gain endorsement from HCT/HC/RC	Share a brief statement about the endorsement of the CODs so the HCT/HC/RC can endorse the dataset	• Use the IMWG COD Agreement Template (for ICCG, HC endorsement) to present to the ICCG and/or HC for endorsement. The COD data plan should provide the list of datasets to be included.
6. [No longer formally required] Send a message to ITOS and OCHA-FIS	Send FIS and ITOS an email to say the candidate COD has been endorsed.	

Resources

- COD Agreement Template (for ICCG, HC endorsement)
- Example of signed COD Agreement (Mali)
- Tips to get CODs endorsed by RC/HC/ICCG
- Advocacy material that can help regional offices
  - ROCCA_AllCOD_Georgia_overview_DRAFT_March_2017
  - Armenia COD overview_DRAFT
  - KAZ_COD_2-pager_2017